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ABSTRACT

This study examined motivational determinants of academic delay of gratification (ADOG) with 196 undergraduate college students at a large midwestern university. Students completed the academic delay of gratification scale, in which students are presented with 10 hypothetical situations and they indicate their preference among options offering immediate and delayed gratification. Analysis focused on assessing the relationship of delay preferences to the differences between expectancy of academic success, how much college students liked, and how much they valued immediate versus temporarily remote goal-related options. Summed across situations, interest, value, and expectancy, difference scores predicted delay preference to approximately the same degree, based both on zero-order bivariate and multivariate statistical tests. The multivariate contribution of liking, value, and expectancy determinants varied across situations, however, which indicated that there were situation-specific and general effects. Results suggest that a more complete explication of ADOG would take into consideration student motivation as well a strategic capabilities to delay gratification. The scale used is appended. (Contains 15 references.) (DB)

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Motivational Determinants of Academic Delay of Gratification

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Abstract

Academic delay of gratification (ADOG) refers to students' postponement of immediately available opportunities to satisfy impulses to pursue temporally remote but more valuable academic goals. We examined motivational determinants of ADOG by assessing the relationships of delay preferences to the differences between the expectancy of academic success, how much college students' liked, and how much they valued immediate versus temporally remote goal-related options. Summed across situations, interest, value, and expectancy difference scores predicted delay preference to approximately the same degree, based both on zero-order bivariate and multivariate statistical tests. The multivariate contribution of liking, value, and expectancy determinants varied across situations, however, which indicated there were situation-specific and general effects. Results suggest that a more complete explication of ADOG would take into consideration student motivation as well as strategic capabilities to delay gratification.

Academic delay of gratification (ADOG) refers to students' postponement of immediately available opportunities to satisfy impulses in favor of academic goals that are temporally remote but ostensibly more valuable (Bembenutty & Karabenick, 1997). Because they stay on task rather than succumb to distraction, learners who delay should perform better than their non-delay peers, which has been found for both children (Mischel, Shoda, & Peake, 1988) and adult college students (Bembenutty, 1997). Mischel's (e.g., 1986) work has focused primarily on the development of delay as necessary for effective functioning and how the ability to delay gratification depends on the conditions under which rewards are presented (e.g., whether they are exposed; Shoda, Mischel, & Peake, 1990). Viewed from a self-regulatory perspective, delay of gratification is considered one of a number of strategies that enhance performance, a component of the self-regulatory system that learners employ to protect task-specific intentions from disruption by non-task alternatives (Corno, 1989; García & Pintrich, 1993; Kuhl, 1985; Mischel, 1996; Pintrich, Roeser, & De Groot, 1994).

Whether gratification is delayed, however, depends not only on strategic capacities but also on such motivational factors as the relevance, value, and expectancy, surrounding each course of action (Heckhausen & Kuhl, 1985; Mischel, 1973; 1990). As recently reiterated by Mischel (1996), "although delay-of-gratification competencies may be necessary preliminaries for such life tasks, the willingness to delay, like all other choice behavior from the perspective of cognitive social theory, depends on an individual's expectancies, beliefs, goals, and values, and on the encoding of the particular psychological situation within which the choice occurs" (p. 212). In expectancy-value terms, students' delay preferences are determined by the summed expected-value of alternative courses of action. Suppose, for example, that a college student receives an invitation from her friends to attend a party the night before an assignment is due. The intended academic intention is to complete the assignment and the attractive alternative to attend the party. One factor that would influence her

decision is the student's intrinsic interest in these activities, that is, the extent the person would "like" to engage in each one. A second factor is "value," which captures the importance or utility of engaging in each activity (Eccles, 1983; Pintrich, Roeser, & De Groot, 1994). The more valuable is attaining the academic goal compared to that of attending the party, the more likely the person would be to delay gratification. A third determinant would be the student's expectation of success at the academic goal, contingent on engaging in each alternative. In this example, whether the student delays gratification (in order to study) depends on the likelihood of success given that she studies compared to that of going to the party. In summary, students' preferences to delay gratification in order to pursue academic goals should be a direct function of the relative interest in (i.e., liking for), value of, and likelihood of academic success when engaging in the delayed versus non-academic alternative.

We tested this hypothesis by determining students' preferences for academic (deferred gratification) and immediate gratification alternatives and the extent to which they liked, valued, and expected academic success were they to engage in each. In addition to generalized delay preference and expectancy-value determinants, summed across a variety of situations, we examined situations individually to determine whether motivational determinants of delay would vary. For example, partying versus studying for an exam could have greater implications for academic success than staying after class to clarify ambiguous lecture material, whereas relative interest may be a more important factor in whether a student attends class rather than opting to enjoy the weather, than would the likelihood of academic success given these two actions.

Method

Participants were 196 undergraduates college students enrolled during the Spring of 1997 in introductory level courses at a large, public, Midwestern university. Participation was voluntary and anonymous. The situations presented to students were

those contained in the recently developed 10-item Academic Delay of Gratification Scale (ADOGS; see list of situations in Appendix A; Bembenutty & Karabenick, 1998), which has shown evidence of both validity and reliability (Cronbach alpha = .68 for the present study). For each of 10 situations, the students first rated their preference for an option that offered more immediate gratification, such as "Going to a favorite concert, play, or sporting event, even though it may mean getting a lower grade on a exam in this class to be taken the next day," or a delayed gratification option such as "Staying home and studying to increase your chances of getting a higher grade." Students responded on a four-point scale: Definitely choose A, Probably choose A, Probably choose B, and Definitely choose B. They were then asked how much they would "like" to and then how "important" it would be for them to engage in the immediate and the delayed gratification alternatives, responding on five-point scales ranging from 0 = "Not at all" to 5 ="Very Much." Students then rated their likelihood of success at the academic task (e.g., "doing well on an exam the next day") given that they engaged in each of the activities, using a 5-point scale that ranged from 0 = "Not at all likely" to 5 = "Very Likely." An example of one complete situation is given in Appendix B.

Results and Discussion

We first obtained difference scores between the rated liking, value and expectancy of success of engaging in the delayed gratification and immediate gratification alternatives for each of the ten situations (delayed minus immediate). The differences scores and the preference ratings were then summed across situations to provide overall liking, value, expectancies, and preferences for delay. Turning first to the means in Table 1, the negative difference score (*Mean* = -.77) indicates that students in general liked the immediate more so than the delayed alternative, ($t(195) = 7.70$, $p < .001$). In addition, they considered the delayed academic alternative both more valuable (*Mean* difference score = 1.54; $t(195) = 14.0$, $p < .001$) and more likely to result in academic success (*Mean*

difference score = 1.52; $t(195) = 14.0$, $p < .001$). Significant positive correlations among these variables indicates that the difference scores were generally consistent within persons. In other words, greater differences in expectancy were associated with greater differences in liking and value. The relationship was especially strong between value and expectancy ($r = .60$, $p < .001$).

As shown in the first column of Table 1, the degree of preference for the (delayed gratification) alternatives was significantly related ($p < .001$) to how much students liked and valued those alternatives, compared to the immediate gratification alternatives. Also as expected, preference for delay was a direct function of the expectancy of succeeding at the academic tasks when opting for the delay versus non-delay alternatives. Results of a multiple regression analysis (presented in Table 1) also show that liking, value, and expectancy (differences) were independently related to delay preference to approximately the same degree (although standardized regression coefficient for expectancy is somewhat lower than for liking or value). Summed across all 10 situations, therefore, we can conclude that differential liking, value, and expectancy all contribute, to approximately the same degree, to delay preference.

The situations differed, however, in how expectancy-value determinants relate to delay preferences. For example, whereas the regression F's, accounted for a statistically significant proportion of preference variance for all situations, they were higher for situations 6, 8, and 10 and lowest for 3, 4, and 7. The regression coefficients also suggest that how much students liked the alternatives was particularly important for situations 1, 2, 6, 9, and 10. In particular, how much students liked studying versus being with their friends accounted for most of the variance in delay choice in situation 2. The differential value of the alternatives accounted for a statistically significant proportion of the delay variance in situations 5, 6, 8, 9, and 10, whereas regression coefficients for expectancy differences were only significant for situations 1, 8, and 10.

Across a wide variety of situations, therefore, the results provide substantial support for the expected association between the relative degree of interest, value, and expectancy for academic (delayed) and non-academic (immediate) gratification alternatives. This evidence extends previous work on delay of gratification (e.g., Mischel, Shoda, & Peake, 1988) and is consistent with general social cognitive and expectancy-value motivational perspectives (Eccles, 1983; Mischel, 1973, 1990, 1996; Pintrich, Roeser, & De Groot, 1994). Thus, what we term delay of gratification is subject to the same determinants as are other learning-related behaviors and self-regulated learning strategies, such as effort management, metacognition, efficiently arranging one's study environment, and making use of personal resources (peer learning and help seeking), with which recent research has shown delay to be associated (Bembenutty & Karabenick, 1998). Further research is suggested that employs the techniques used in the present study to examine associations between individual differences in delay and its motivational determinants to other learner characteristics that affect whether students are successful in protecting goals from disruption, such as students' capabilities for volition and action control (Corno, 1989; García, McCann, Turner, & Roska, 1997; Kuhl, 1985; Mischel, 1996).

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Table 1

Correlations Between Overall Delay Preferences and Differences Between Liking, Value, and Expectancies for Immediate vs. Delayed Alternatives (N = 196)

	Correlations					
Variable	Delay	Liking	Value	*ß*	*Mean*	*SD*
Delay Preference					3.03	.46
Liking	.48**			.32**	-.77	1.36
Value	.50**	.29**		.29**	1.54	.84
Expectancy	.51**	.31**	.60**	.21*	1.82	.85
Regression *F* for predicting delay preferences				39.44**		
			R^2	.40		

*$p < .01$ **$p < .001$

Table 2

Correlations for Individual Situations Between Delay Preferences and Differences Between Liking, Value, and Expectancies for Immediate vs. Delayed Alternatives (N = 196)

Situation	Liking		Value		Expectancy			
	r	*ß*	*r*	*ß*	*r*	*ß*	*F*	R^2
1. Go to event vs. Study	.28***	.18*	.22**	.04	.30***	.19*	7.30***	.11
2. Be with friends vs. Study	.30***	.31***	.10	-.01	.12	.00	6.01***	.09
3. Take trip vs. Not miss	.07	-.02	.20**	.13	.20**	.12	3.06*	.05
4. Party vs. Study for exam	.19**	.13	.21**	.05	.27***	.17	5.13**	.06
5. Interest. vs. Assign. Rdg.	.23**	.17*	.25***	.20*	.20**	.07	6.47***	.09
6. Skip vs. Attend class	.34***	.25***	.31***	.20*	.29***	.07	12.04***	.17
7. Friends vs. Study	.13	.03	.23***	.14	.23**	.12	4.13**	.06
8. Distraction vs. Nondist.	.25***	.09	.40***	.20*	.40***	.27**	17.23***	.23
9. Stay vs. Leave class	.33***	.23**	.30***	.26**	.19**	-.02	9.87***	.14
10. Fun vs. Better instructor	.31***	.18*	.40***	.24**	.38***	.18*	16.80***	.22

*$p < .05$ **$p < .01$ ***$p < .001$

Appendix A

Academic Delay of Gratification Scale (ADOGS) Situations

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1. A. Go to a favorite concert, play, or sporting event and study less for this course even though it may mean getting a lower grade on an exam you will take tomorrow, OR
   B. Stay home and study to increase your chances of getting a higher grade.

2. A. Study a little every day for an exam in this course and spend less time with your friends, *OR*
   B. Spend more time with your friends and cram just before the test.

3. A. Miss several classes to accept an invitation for a very interesting trip, *OR*
   B. Delay going on the trip until the course is over.

4. A. Go to a party the night before a test for this course and study only if you have time, *OR*
   B. Study first and party only if you have time.

5. A. Spend most of your time studying just the interesting material in this course even though it may mean not doing so well, *OR*
   B. Study all the material that is assigned to increase your chances of doing well in the course.

6. A. Skip this class when the weather is nice and try to get the notes from somebody later, *OR*
   B. Attend class to make certain that you do not miss something even though the weather is nice outside.

7. A. Stay in the library to make certain that you finish an assignment in this course that is due the next day, *OR*
   B. Leave to have fun with your friends and try to complete it when you get home later that night.

8. A. Study for this course in a place with a lot of pleasant distractions, *OR*
   B. Study in a place where there are fewer distractions to increase the likelihood that you will learn the material.

9. A. Leave right after class to do something you like even though it means possibly not understanding that material for the exam, *OR*
   B. Stay after class to ask your instructor to clarify some material for an exam that you do not understand.

10. A. Select now an instructor for this course who is fun even though he/she does not do a good job covering the course material, *OR*
    B. Select an instructor for this course who is not as much fun but who does a good job covering the course material.

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Appendix B

Sample Item Assessing Academic Delay of Gratification (ADOG) with Liking, Value, and Expectancy of Success Given Preferences for Immediate versus Delayed Alternatives

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Situation 1

Suppose that you had a choice between...

A. Going to a favorite concert, play, or sporting event and studying less even though it may mean getting a lower grade on an exam the next day, *OR*

B. Staying home and studying to increase your chances of getting a high grade.

Which would you probably choose to do?

__Definitely choose A __Probably choose A __Probably choose B __Definitely choose B

- How much would you like to go to a favorite concert, play, or sporting event?

  Not at all 0 1 2 3 4 5 *Very Much*

- How much would you like to stay home and study?

  Not at all 0 1 2 3 4 5 *Very Much*

- How important would it be for you to go to a favorite concert, play, or sporting event?

  Not at all 0 1 2 3 4 5 *Very Much*

- How important would it be for you to stay home and study?

  Not at all 0 1 2 3 4 5 *Very Much*

- How likely is it that you would get a high grade on the exam if you went to the concert, play, or sporting event?

  Not at all Likely 0 1 2 3 4 5 *Very Likely*

- How likely is it that you would get a high grade on the exam if you stayed home to study?

  Not at all Likely 0 1 2 3 4 5 *Very Likely*